Appendix 1: Supplementary tables [posted as supplied by author]

Table A. Clinical features of a family cluster of two patients with novel avian influenza A (H7N9) virus infection in Eastern China, 2013

	Case two	Index case
General		
Age(years) and sex	32, female	60, male
Temperature(℃)*	39.6 (40.4[†])	39.0 (40.2[†])
Day of onset	March 21	March 8
Blood counts*		
White blood cells($\times 10^9$ per L)	2.0 (0.4[‡])	5.9 (1.9[‡])
Lymphocytes($\times 10^9$ per L)	0.7(0.1[‡])	0.3 (0.13[‡])
Platelets($\times 10^9$ per L)	84 (77[‡])	120 (24[‡])
Serum biochemistry*		
Alanine aminotransferase(U/L)	NA (96[†])	65 (181[†])
Aspartate aminotransferase(U/L)	NA (203[†])	148 (178[†])
Albumin(U/L)	34.8 (25.4[‡])	27.8 (24.1[‡])
Creatinine(U/L)	62.7 (103.8[†])	67.5 (102[†])
Creatine kinase (U/L)	NA (1063[†])	NA
Lactate dehydrogenase (U/L)	NA (1291[†])	NA (707[†])
Coagulation*		
Prothrombin time (seconds)	11.0 (16.6[†])	NA (25.8[†])
Activated partial thromboplastintime (seconds)	38.5 (60.7[†])	NA (59.2[†])
Fibrinogen (g/L)	2.11 (5.18[†])	NA (4.64[†])
Arterial blood*		
$PaCO_2$ (mm Hg)	26 (31[‡])	23.4 (23.4[‡])
PaO_2 (mm Hg)	77 (18[‡])	54 (31[‡])
Bicarbonate (mEq/L)	25.4 (12.5[‡])	16.3 (16.3[‡])
Alveolar-arterial oxygen gradient (mm Hg)	29 (45[‡])	NA (380[‡])
Other		
Chest radiography	Left side pneumonia	Left side pneumonia

Complications	ARDS, type I respiratory failure	ARDS, type I respiratory failure
Treatment		
Mechanical ventilation	Yes	Yes
Corticosteroids	Yes	Yes
Oseltamivir (75 mg/time, twice a day)	Yes (Started Mar. 19)	Yes (Started Mar. 24)
Passive immunotherapy	Yes	Yes
Outcome	Death	Death
Days from onset to death ordischarge	35	57
Results of HI assay		
	1:20 (March 29)	1:320 (March 31)
	1:320 (April 17)	1:320 (April 14)

*Data were measurement at admission and the values in the parentheses were the peak (denoted by †) or nadir (denoted by ‡) measurement during hospitalization.

Table B. Detailed information of the 39 healthcare workers close contacts of the two H7N9 cases, Eastern China, 2013

No. of close contacts	Hospital	Department	Occupation	Index Case/Case Two	Period of contact with cases	
					Start	End
01	B	ICU	Doctor	I & T	3-29	4-1
02	B	ICU	Nurse	I & T	3-29	3-30
03	B	ICU	Nurse	I & T	3-29	3-29
04	B	ICU	Nurse	I & T	4-1	4-1
05	B	ICU	Doctor	I & T	4-1	4-1
06	B	ICU	Doctor	I & T	3-30	3-31
07	B	ICU	Doctor	I & T	3-30	3-31
08	B	ICU	Doctor	I & T	3-29	4-1
09	B	ICU	Doctor	I & T	3-29	4-1
10	B	ICU	Doctor	I & T	3-30	3-31
11	B	PD	Nurse	T	3-25	3-31
12	B	PD	Nurse	T	3-26	3-28
13	B	PD	Nurse	T	3-25	3-27
14	B	PD	Nurse	T	3-24	3-28
15	B	PD	Nurse	T	3-25	3-28
16	B	PD	Nurse	T	3-24	3-28
17	B	PD	Nurse	T	3-25	3-28
18	B	PD	Nurse	T	3-24	3-27
19	B	PD	Doctor	T	3-25	3-28
20	B	PD	Doctor	T	3-24	3-28
21	B	PD	Doctor	T	3-25	3-28
22	B	PD	Nurse	T	3-24	3-26
23	B	PD	Doctor	T	3-24	3-26
24	B	Outpatient doctor	Doctor	T	3-21	3-21
25	A	PD	Nurse	I	3-11	3-15
26	A	PD	Nurse	I	3-11	3-15
27	A	PD	Doctor	I	3-11	3-15
28	A	PD	Doctor	I	3-11	3-15
29	A	PD	Doctor	I	3-11	3-18
30	A	ICU	Doctor	I	3-15	3-18
31	A	ICU	Nurse	I	3-15	3-18
32	A	ICU	Doctor	I	3-15	3-18
33	A	ICU	Nurse	I	3-15	3-18
34	A	ICU	Nurse	I	3-15	3-18
35	A	ICU	Nurse	I	3-15	3-18
36	A	ICU	Nurse	I	3-15	3-18
37	A	ICU	Nurse	I	3-15	3-18
38	A	ICU	Nurse	I	3-15	3-18
39	A	PD	Nurse	I	3-11	3-15

Abbreviation: ICU– intensive care unit, PD – pneumology department, I – index case, and T– case two

Table C. Analysis of the key functional amino acid sites in different viral proteins associated with interspecies transmission or drug resistance of the three novel avian influenza A (H7N9) viruses related to a family cluster in Eastern China, 2013

Protein*	Mutations responsible for viral phenotype change		Shanghai/1	Shanghai/2 & Anhui/1	Nanjing/1	Wuxi/1[&]	Wuxi/2[&]	Env/1[&]
PB2	Increased virulence in mice Associated with mammalian adaptation	Q591K	Q	Q	K	Q	Q	K
		E627K	K	K	E	K	K	E
		D701N	D	D	_	D	D	D
PB1	H5 virus transmissible among ferrets	I368V	I	V	I	V	V	I
	Cleavage site		PEIPKGR*GLF	PEIPKGR*GLF	PEIPKGR*GLF	PEIPKGR*GLF	PEIPKGR*GLF	PEIPKGR*GLF
HA	Receptor binding site (RBS) (H3 Numbering)	T189A	A	A	A	A	A	A
		Q226L	Q	L	L	L	L	L
		G228S	G	G	G	G	G	G
NA	Stalk deletion		69-73	69-73	69-73	69-73	69-73	69-73
	Antiviral resistance	E120V	E	E	E	E	E	E
		H276Y	H	H	H	H	H	H
		R294K	K	R	R	R	R	R
M1	Increase virulence in mice	N30D	D	D	D	D	D	D
		T215A	A	A	A	A	A	A
M2	Antiviral resistance	S31N	N	N	N	N	N	N
NS1	Increase virulence in mice	P42S	S	S	S	S	S	S

* The numbering starts with the first condon of Methionine for these proteins accepts HA.

& Strain of Wuxi/1 denoted for A/Wuxi/1/2013 was isolated from the daughter, Wuxi/2 denoted for A/Wuxi/2/2013 from the index patient, and Env/1 denoted for A/Environment/Wuxi/1/2013 from environmental sample of the live-poultry market where the index patient used to visit.

Definition of H7N9 cases and close contacts

According to *Chinese Guidelines for Diagnosis and Treatment of Human Infection with H7N9 Avian Influenza* issued by the National Health and Family Planning Commission on April 2, 2013, laboratory-confirmed H7N9 cases were defined as patients with influenza-like illness symptoms as well as respiratory specimens that tested positive for H7N9 virus one of the following: isolation of H7N9 virus or positive results by real-time reverse transcription polymerase chain reaction (rRT-PCR) assay for H7N9,or a fourfold or greater rise in antibody titer for H7N9 virus based on testing of an acute serum specimen (collected 7 days or less after symptom onset) and a convalescent serum specimen collected at least two weeks later.

According to *Chinese Guidelines for Prevention and Control of Human Infection with H7N9 Avian Influenza* issued by the National Health and Family Planning Commission on April 3, 2013, a close contact was defined as: a) healthcare workers who provided medical service and family members who provided cares for suspected or confirmed H7N9 cases without effective personal protection; or b) any person who lived together or contacted within one metre with H7N9 cases during the period of one day before the case illness onset till to the case was isolated or died.